

**PATENT APPLICATION**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES**

In re application of

Docket No: Q64544

Dominique HAMOIR

Appln. No.: 09/856,362

Group Art Unit: 2633

Confirmation No.: 6876

Examiner: Leslie PASCAL

Filed: May 22, 2001

For: AMPLIFICATION FOR VERY BROAD BAND OPTICAL FIBER TRANSMISSION  
SYSTEMS

**REPLY BRIEF UNDER 37 C.F.R. § 41.41**

**MAIL STOP APPEAL BRIEF - PATENTS**

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

Sir:

In accordance with the provisions of 37 C.F.R. § 41.41, Appellant respectfully submits this Reply Brief in response to the Examiner's Answer ("the Answer") dated February 8, 2007. Entry of this Reply Brief is respectfully requested.

**I. REAL PARTY IN INTEREST**

The real party in interest is Alcatel Lucent. This is the same real party in interest as before, but the name of the assignee has changed since the time this appeal was filed.

## **II. STATUS OF CLAIMS**

Claims 1-8 and 10-25 are pending in the application.

Claims 24 and 25 are rejected under the first paragraph of 35 UC 112 as not supported by an enabling disclosure.

Claims 1-6, 11-18, 21 and 22 are rejected under 35 USC 103(a) as unpatentable over Saleh (USP 6,587,241).

Claims 7, 8, 10, 19, 20 and 23 are rejected under 35 USC 103(a) as unpatentable over Saleh in view of Chraplyvy (EP 0749224)

### **III. ARGUMENT**

#### **1. Improper Citation of New Art in Examiner's Answer**

At pages 2-3 of the Examiner's Answer, the examiner has included a section (8) entitled Evidence Relied Upon, and has cited an additional reference not earlier of record. This evidence is not of record and cannot be considered on appeal. If appellant presents an argument that shows a flaw in the rejection as stated, and the examiner finds it necessary to cite further art to teach something missing in the art previously relied on, the solution is to either re-open prosecution and issue a new Office action, or to affirmatively state a new ground of rejection to which appellant can respond.

#### **2. In re Hyatt is Inapplicable to the Present Case**

The examiner has again spent considerable time discussing the applicability of In re Hyatt to the present case. What the examiner overlooks is that the entire discussion by the court in that case was triggered by the fact that the claim at issue was a single means claim, i.e., a claim using means plus function claim language in a claim not directed to a combination of elements. The holding in that case is absolutely not applicable to a claim that does not use means plus function claim language. The court in Hyatt never held that any claim which recites only a single element is *per se* invalid for undue breadth. That would be contrary to over a century of USPTO practice and judicial precedent.

Ignoring the "single means" issue which is clearly inapplicable to claims 24 and 25, the basis for the rejection of the examiner is that the specification does not contain sufficient disclosure to enable one of ordinary skill in the art to make and use the claimed invention. Yet, the examiner has not identified a single thing in claim 24 that the artisan would be unable to do. Claim 24 recites:

24. A very broad band wavelength division multiplexed transmission system comprising an optical fiber for carrying a single continuous very broad band of signals subject to a Raman effect, wherein the optical fiber further

provides linear losses to compensate enrichment of channels over the end of the very broad band.

The specification describes very clearly how this can be done by having the end of the very broad band extend above 1620 nm for a conventional G.652 fiber. The examiner has not alleged that the ordinarily skilled artisan would not know how to do this. What the examiner has said is that the examiner does not understand it. That is unfortunate, but it does not justify a rejection for lack of enablement. The specification describes how to do it, and that is all that is necessary, even if the examiner does not understand why or how it works. More importantly, however, there is nothing at all unclear about how and why it works, and this is all clearly described in the specification. And notably, the examiner has not really even disagreed with this, and has not pointed to anything the artisan could not do. The examiner simply keeps coming back to the question of how a fiber that is subject to a problem can also be used to correct the problem. But this argument fails for two reasons. The first is that it is based on the examiner's continuing objection to a "single means" claim that does not even exist in this case. The second reason is that the specification very clearly describes how the fiber can be used to compensate for the problem, and appellants have exhaustively explained this to the examiner. The enrichment in the upper region of the very broad band is going to happen. Adding progressive attenuation to the fiber in the upper region achieves a flat gain characteristic that compensates for the enrichment. If the distributed attenuation is to be provided by the linear losses in the fiber itself, then the upper end of the very broad band has to extend into the region where the fiber exhibits the appropriate linear losses. For a G.652 fiber, this means above 1620 nm. The examiner has not alleged that the artisan could not do this.

### **3. Saleh Does Not Teach the Claimed Invention**

At pages 3-4 of the Examiner's Answer where the examiner discusses how Saleh teaches the subject matter of claim 1, the examiner does not point to a single place where Saleh discusses compensation for Raman effect, or even acknowledges that the problem exists. What the examiner does is point to the fact that Saleh uses a fiber, and uses amplifiers, which are the same

things the present invention uses for compensation, and the examiner then concludes that Saleh teaches the invention. But what the examiner is conveniently overlooking is that the discrete or distributed amplifiers will not compensate for the depletion or enrichment, nor will the fiber itself compensate for enrichment, unless the gains of the amplifiers are set to achieve this compensation, e.g., in the manner discussed in the present application, or unless the combination of the particular type of fiber used and the positioning of the very broad band are such that the upper region of the very broad band will extend into a region where the fiber exhibits the appropriate linear losses to compensate for the enrichment. Saleh says nothing at all about Raman effect, and certainly nothing at all about how to compensate for it. Saleh does not teach having the gains of individual amplifiers in the lower zone set so that the gain profile will compensate for the Raman effects in the upper zone. Saleh does not teach having gains set in the upper zone such that the gain profile will compensate for Raman effects in the upper zone. Saleh does not teach setting his amplifier gains or positioning the transmission window relative to the loss characteristics of the optical fiber such that the fiber properties can be used to compensate for Raman effects. Without anything to teach the artisan how the gains of the amplifiers should be set so as to compensate for deletion or enrichment, and without anything to teach the artisan how to position the very broad band of the transmission system such that it effectively uses the increased linear losses for Raman effect compensation in the upper region of the band, there is absolutely no basis for concluding that the subject matter of claim 1 would be obvious to the artisan, much less inherent in Saleh.

The examiner has presented a chart at page 8 of the Answer by which the examiner purports to show that Saleh teaches all of the same structure that appellant discloses for implementing the claimed invention. Again, however, the amplifiers that Saleh teaches will not be effective to compensate for Raman effect depletion in the lower zone unless that gains of those amplifiers are set to achieve a gain profile that compensates for the gain distortion caused by the depletion, as clearly explained in the present application. Saleh does not teach this, and the examiner has not pointed to any place where such teaching is alleged. The examiner dismisses this shortfall in the teaching of Saleh at the bottom of page 9 and top of page 10 of the

Answer, arguing that appellants do not teach this either so why should Saleh be required to teach it? But appellants do teach it, very clearly. Fig. 1 shows the effect of the depletion in the lower zone and the enrichment in the upper zone, and Fig. 2 shows the gain profile that will compensate for this. So on reading the present application, the artisan would know exactly how to set the gains to compensate for Raman effects, yet in the absence of any such teaching in Saleh this would not have been apparent.

**4. The Examiner is Ignoring the Limitations of Claims 5, 14 and 18**

It is submitted that all claims clearly distinguish over the applied art, but special mention is warranted with respect to claims 5, 14 and 18 which are rejected for anticipation but which recite compensation over the beginning of the band. This is not achieved by the fiber itself, but requires that the gains of the amplifiers in that region be set to compensate for the depletion profile. This is simply not taught in Saleh and cannot be anticipated. Further, there is nothing in any of the cited art to suggest why one would set the gains in this manner, so appellants do not understand where the examiner finds support for any rejection of these claims.

**Conclusion**

For the reasons set forth in detail above and in the earlier filed Appeal Brief, it is respectfully submitted that the rejections of the examiner should be reversed.

Respectfully submitted,

SUGHRUE MION, PLLC  
Telephone: (202) 293-7060  
Facsimile: (202) 293-7860

WASHINGTON OFFICE

**23373**

CUSTOMER NUMBER

Date: April 9, 2007

/DJCushing/  
David J. Cushing  
Registration No. 28,703